Trend Study 21A-12-07

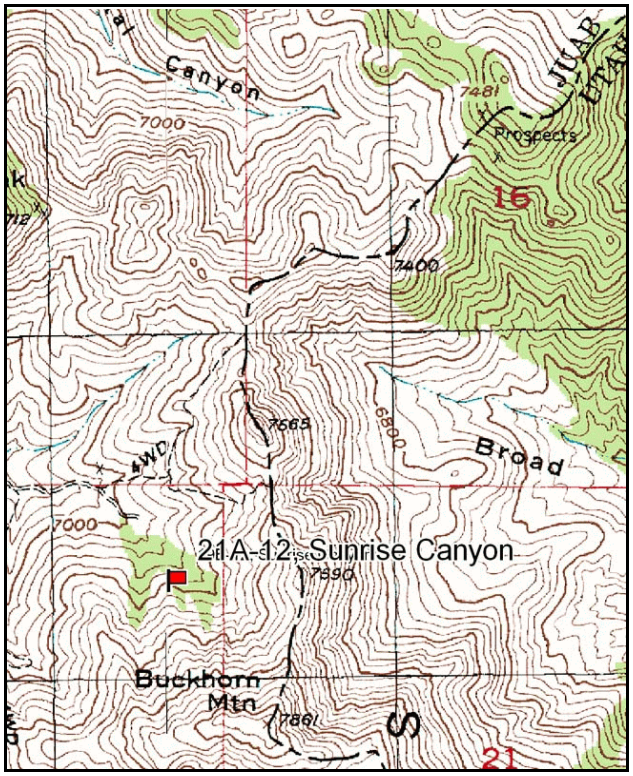
Study site name: Sunrise Canyon Vegetation type: Big Sagebrush-Grass

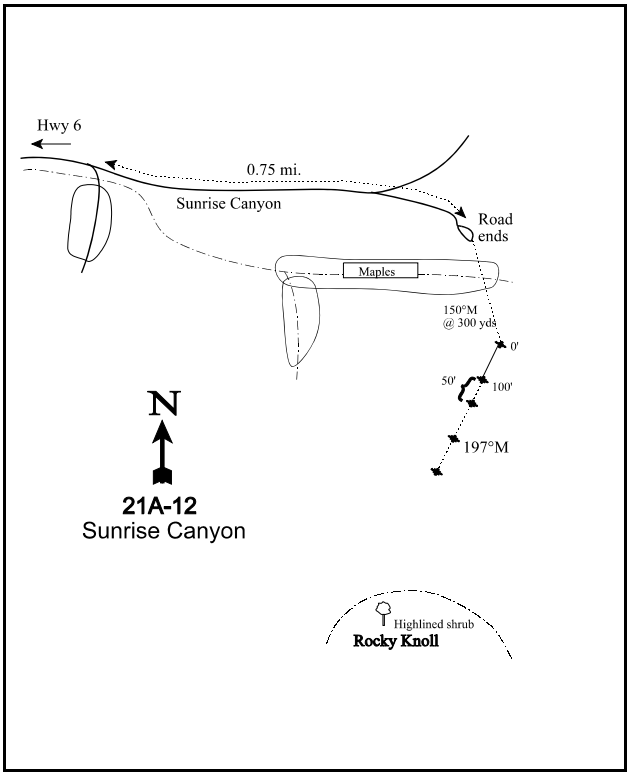
Compass bearing: frequency baseline 197 degrees magnetic.

Frequency belt placement: line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft). Rebar: belt 3 on 3ft and belt 5 on 1ft.

LOCATION DESCRIPTION

From the junction of Highway U.S. 6 and U-36, proceed south on U.S. 6 for 6.30 miles to where the Sunrise Seeding road leads off to the east at mile marker 132. Proceed east on this road for 0.70 miles to a fork. Keep left for an additional 0.90 miles to an intersection. Turn right (east) up Sunrise Canyon for 0.85 miles to another fork. Stay left and go 0.75 miles to the end of the road in the bottom of Sunrise Canyon. From this point, the 0-foot mark of the baseline is located on a small ridge on an azimuth of 171 degrees on the opposite side of a maple clogged draw. Walk on the designated azimuth through the draw to the sagebrush grass ridge. The 0-foot mark, marked by a green steel fencepost with a red browse tag #437, is located approximately midway up the slope and in the middle of the ridge.





Map Name: Tintic Mountain Diagrammatic Sketch

Township 11S , Range 2W , Section 20 GPS: NAD 83, UTM 12S 407278 E 4412453 N

DISCUSSION

Sunrise Canyon - Trend Study No. 21A-12

Study Information

This study is located on big game summer range, and is typical of the higher ridges and slopes in this portion of the East Tintic Mountains [elevation: 7,250 feet (2,210 m), slope: 44%, aspect: northwest]. The area is occupied by a sagebrush-grass community. Escape cover is limited to narrow fingers of chokecherry (*Prunus virginiana*) and bigtooth maple (*Acer grandidentatum*) trees in the drainage bottoms. In 1983, numerous does with fawns, as well as a sage-grouse brood, were flushed from the draw immediately below the study. It was further noted that livestock grazing was especially intense in the draws, but much less on the slopes and ridges. In 1989, the shrub interspaces were nearly devoid of cover after spring sheep use. A herd of sheep was grazing during the 2002 sampling. In 2007, three deer and a deer carcass were observed near the study, and deer pellet groups seem to be concentrated more in the chokecherry and maple bottoms. Deer use was estimated at 7 days use/acre (17 ddu/ha) in 2002 and 12 days use/acre (30 ddu/ha) in 2007. Domestic sheep use was estimated at 41 days use/acre (102 sdu/ha) in 2002 and 71 days use/acre (175 sdu/ha) in 2007. Horse use was estimated at 5 days use/acre (12 hdu/ha) in 2007.

Soil

The soil is classified in the Wallsburg series (USDA-NRCS 2007). The soils in this series are shallow and well-drained, and formed in residuum and colluvium from limestone, sandstone, and shale. The soil texture is a sandy clay loam with a slightly acidic reaction (pH 6.1). It is very shallow and rocky. Rock has provided 17%-20% relative ground cover since 1997, while combined relative vegetation and litter cover has averaged 59%-66%. The slope is terraced by a network of livestock and game trails. The erosion condition was classified as slight in 2002 and 2007 due to pedestalling, flow patterns, and soil movement.

Browse

The browse composition is diverse, but it is composed mostly of low-growing species due to the shallow, rocky soil. Low sagebrush *(Artemisia arbuscula*) and mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) are present, and it is a possibility that these species are hybridizing (McArthur et al. 1979). Low sagebrush is the most abundant shrub, and has steadily declined in density from 6,700 plants/acre (16,555 plants/ha) in 1997 to 3,580 plants/acre (8,846 plants/ha) in 2007. Its average cover decreased from 14% in 1997 to 7% in 2007. The population has been mostly mature, although decadence has increased from 13% of the population in 1997 to 31% in 2007. Young plants have comprised 5% or less of the population since 1997. Vigor has been good on most plants except in 1989, when 60% of the sampled plants displayed poor vigor. Use was mostly light in 1983, 1997, and 2002, light-moderate in 1989, and moderate-heavy in 2007. Annual leader growth averaged 1.1 inches (2.8 cm) in 2007.

Mountain big sagebrush density has fluctuated between 1,720 plants/acre (4,250 plants/ha) and 3,020 plants/acre (7,462 plants/ha) since 1997, while average cover has ranged from 7% to 15%. The population has been mostly mature, and decadence has decreased from 30% of the population to 21% since 1997. Young recruitment increased from 7% of the population in 1997 to 15% in 2002, then remained stable in 2007. The density of dead plants has ranged between 480 plants/acre (1,186 plants/ha) and 840 plants/acre (2,076 plants/ha), and approximately one-fifth of the plants have displayed poor vigor since 1997. Use was mostly light in 1983, 1997, and 2002, light-moderate in 1989, and moderate-heavy in 2007. Annual leader growth averaged 0.7 inches (1.8 cm) in 2002 and 1.4 inches (3.5 cm) in 2007.

The study supports smaller populations of other browse species, including serviceberry (*Amelanchier alnifolia*), true mountain mahogany (*Cercocarpus montanus*), stickyleaf low rabbitbrush (*Chrysothamnus viscidiflorus* ssp. *viscidiflorus*), slenderbush eriogonum (*Eriogonum microthecum*), Oregon grape (*Mahonia repens*), pricklypear (*Opuntia* sp.), Myrtle pachistima (*Pachistima myrsinites*), snowberry (*Symphoricarpos*

oreophilus), and gray horsebrush (*Tetradymia canescens*).

Herbaceous Understory
The herbaceous understory has been moderately low, due to the high cover provided by sagebrush and consistent spring sheep grazing. Bluebunch wheatgrass (*Agropyron spicatum*) and mutton bluegrass (*Poa fendleriana*) have provided 89%-95% of the total grass cover since 1997. Both species were grazed heavily in 2002 and 2007. Average perennial grass cover was 6% in 1997, 7% in 2002, and 3% in 2007. Cheatgrass (*Bromus tectorum*) is present at a very low frequency, and has not increased in nested frequency or cover in the past 10 years.

Forb cover was high at 11% and 20% in 1997 and 2002, respectively, then decreased to 5% in 2007. The most common species are perennials, and include silvery lupine (*Lupinus argenteus*), sandwort (*Arenaria fendleri*), and Hood's phlox (*Phlox hoodii*). Common houndstongue (*Cynoglossum officinale*), a noxious weed, was sampled at a quadrat frequency of 20% and 16% in 1997 and 2002, respectively.

1989 TREND ASSESSMENT
The trend for browse is slightly up. Low sagebrush density increased from 7,066 plants/acre (17,460 plants/ha) to 8,465 plants/acre (20,917 plants/ha). Decadence increased from 0% to 10% of the population, and young recruitment also increased from 0% to 9% of the population. Mountain big sagebrush density increased from 1,665 plants/acre (4,114 plants/ha) to 1,865 plants/acre (4,608 plants/ha). Decadence slightly decreased from 16% of the population to 14%, and young recruitment also decreased from 16% of the population to 7%. Low sagebrush and big sagebrush plants displaying poor vigor greatly increased from 0% of both populations to 60% and 46%, respectively. Use of both species increased to light-moderate. The trend for grass is stable. The sum of nested frequency for perennial grasses did not change substantially. The trend for forbs is slightly down. The sum of nested frequency for perennial forbs decreased 16%. Hood's phlox and rock goldenrod (*Petradoria pumila*) both decreased significantly in nested frequency, while fleabane (*Erigeron* sp.) increased significantly in nested frequency. Houndstongue was sampled in one quadrat in 1983, but was not sampled in 1989.

browse - slightly up (+1) grass - stable (0) forb - slightly down (-1)

1997 TREND ASSESSMENT
The trend for browse is slightly down. Low sagebrush density decreased from 8,465 plants/acre (20,917 plants/ha) to 6,700 plants/acre (16,555 plants/ha), although this decrease may be partly attributed to the increase in sampling area during this year. Decadence increased slightly from 10% to 13% of the population, and young recruitment decreased slightly from 9% to 5% of the population. Plants showing poor vigor decreased from 60% of the population to 9%. Mountain big sagebrush density also decreased, from 1,865 plants/acre (4,608 plants/ha) to 1,720 plants/acre (4,250 plants/ha). Decadence more than doubled to 30% of the population, while recruitment remained stable with 7% of the population composed of young plants. Plants displaying poor vigor decreased to 20% of the population. Use of both species decreased to mostly light. The trend for grass is slightly down. The sum of nested frequency for perennial species decreased 13% since 1983. Bluebunch wheatgrass increased significantly in nested frequency. The trend for forbs is slightly down. The sum of nested frequency for perennial forbs continued to decrease 15%. Sandwort and milkvetch (*Astragalus* sp.) decreased significantly in nested frequency, while lupine and Hood's phlox increased significantly in nested frequency. Houndstongue was sampled again and provided 2% cover. The Desirable Components Index (DCI) was not calculated for this study because it is on summer range.

winter range condition (DCI) - Not applicable, summer range
browse - slightly down (-1) grass - slightly down (-1) forb - slightly down (-1)

2002 TREND ASSESSMENT

The trend for browse is up. Low sagebrush density remained relatively stable at 6,440 plants/acre (15,913 plants/ha). Decadence slightly increased from 13% of the population to 16%, and young recruitment remained low at 3%. The majority of the plants continued to be vigorous. Mountain big sagebrush density increased 76%, from 1,720 plants/acre (4,250 plants/ha) to 3,020 plants/acre (7,462 plants/ha). Decadence slightly decreased from 30% of the population to 25%, and young recruitment increased from 7% of the population to 15%. Plants displaying poor vigor slightly decreased from 20% to 17% of the population. Use on both sagebrush species remained mostly light. The trend for grass is slightly down. The sum of nested frequency for perennial grasses decreased nearly 20%, while average cover increased slightly from 6% to 7%. The trend for forbs is stable. The sum of nested frequency for perennial forbs increased 9%. Houndstongue quadrat frequency declined from 20% to 16%, and its average cover decreased from 2% to less than 1%.

winter range condition (DCI) - Not applicable, summer range
browse - up (+2) grass - slightly down (-1) forb - stable (0)

2007 TREND ASSESSMENT

The trend for browse is down. Low sagebrush density decreased from 6,440 plants/acre (15,913 plants/ha) to 3,580 plants/acre (8,846 plants/ha). Decadence increased from 16% of the population to 31%, while young recruitment remained relatively stable at 2% of the population. Mountain big sagebrush density decreased from 3,020 plants/acre (7,462 plants/ha) to 2,140 plants/acre (5,288 plants/ha). Decadence and young recruitment slightly decreased to 21% and 14% of the population, respectively. Sagebrush plants displaying poor vigor remained stable at 8% of the low sagebrush population and 18% of the big sagebrush population. Use of both species increased to moderate-heavy. The trend for grass is down. The sum of nested frequency for perennial grasses decreased 23% and average cover decreased from 7% to 3%. Mutton bluegrass decreased significantly in nested frequency. The trend for forbs is down. The sum of nested frequency for perennial forbs decreased 44% and average perennial forb cover decreased from 20% to 5%. Sandwort, lupine, and Hood's phlox decreased significantly in nested frequency. Houndstongue was not sampled.

winter range condition (DCI) - Not applicable, summer range
browse - down (-2) grass - down (-2) forb - down (-2)

HERBACEOUS TRENDS --
Management unit 21A, Study no: 12

Type	Species	Nested Frequency					Average Cover %		
		'83	'89	'97	'02	'07	'97	'02	'07
G	Agropyron spicatum	$_{ab}$103	$_{a}$64	$_{b}$138	$_{b}$116	$_{ab}$96	2.02	2.60	1.50
G	Bromus tectorum (a)	-	-	$_{a}$15	$_{a}$7	$_{a}$5	.04	.01	.01
G	Carex sp.	$_{a}$1	-	-	$_{a}$4	-	-	.06	-
G	Koeleria cristata	$_{a}$3	-	-	-	$_{b}$19	-	-	.09
G	Melica bulbosa	$_{b}$29	-	-	$_{a}$3	-	-	.15	-
G	Poa fendleriana	$_{b}$237	$_{b}$254	$_{b}$157	$_{b}$131	$_{a}$67	3.25	4.26	.93
G	Poa secunda	$_{a}$7	$_{ab}$23	$_{b}$29	$_{ab}$15	$_{ab}$23	.20	.13	.16

Type	Species	Nested Frequency					Average Cover %		
		'83	'89	'97	'02	'07	'97	'02	'07
G	Stipa columbiana	a3	a8	a8	-	a3	.44	-	.03
Total for Annual Grasses		0	0	15	7	5	0.04	0.01	0.00
Total for Perennial Grasses		383	349	332	269	208	5.92	7.22	2.72
Total for Grasses		383	349	347	276	213	5.97	7.23	2.73
F	Antennaria rosea	-	-	a10	a3	a1	.04	.03	.00
F	Arabis sp.	a13	a9	a3	-	-	.01	-	-
F	Arenaria fendleri	c174	c153	b91	b67	a33	1.93	1.70	.30
F	Astragalus sp.	-	b11	a3	ab4	-	.01	.03	-
F	Castilleja chromosa	4	-	-	-	-	-	-	-
F	Calochortus nuttallii	6	-	-	-	-	-	-	-
F	Chenopodium album (a)	-	-	-	-	9	-	-	.04
F	Chaenactis douglasii	a2	a2	-	-	-	-	-	-
F	Chenopodium sp. (a)	-	-	1	-	-	.00	-	-
F	Chenopodium leptophyllum(a)	-	-	-	-	8	-	-	.04
F	Collomia linearis (a)	-	-	a2	a2	a3	.00	.00	.00
F	Comandra pallida	-	-	-	3	-	-	.00	-
F	Collinsia parviflora (a)	-	-	a27	a20	a12	.06	.08	.04
F	Cynoglossum officinale	a1	-	b37	b34	-	1.76	.23	-
F	Epilobium brachycarpum (a)	-	-	-	b21	a2	-	.04	.03
F	Erigeron sp.	a12	b28	-	a3	-	-	.01	-
F	Eriogonum racemosum	-	-	-	-	1	-	-	.00
F	Eriogonum umbellatum	a1	a4	-	-	-	-	-	-
F	Galium sp.	-	-	-	3	-	-	.00	-
F	Heuchera parvifolia	3	-	-	-	-	-	-	-
F	Lactuca serriola	-	-	a7	-	a2	.02	-	.01
F	Lithospermum ruderale	a3	a5	a1	-	-	.00	-	-
F	Lomatium sp.	-	2	-	-	-	-	-	-
F	Lupinus argenteus	a55	ab84	cd120	d154	bc105	6.30	16.26	4.03
F	Machaeranthera canescens	a7	a7	a3	a3	a1	.00	.01	.00
F	Petradoria pumila	b25	a4	-	-	-	-	-	-
F	Phlox hoodii	c91	a16	b47	b55	a19	.82	1.17	.16
F	Phlox longifolia	-	-	-	a4	a6	-	.01	.01
F	Polygonum douglasii (a)	-	-	b21	a4	ab9	.07	.01	.04
F	Senecio integerrimus	-	a11	-	a5	a3	-	.04	.04
F	Senecio multilobatus	-	-	a2	-	a6	.00	-	.03
F	Taraxacum officinale	-	-	-	3	-	-	.01	-

Type	Species	Nested Frequency					Average Cover %		
		'83	'89	'97	'02	'07	'97	'02	'07
F	Unknown forb-perennial	$_{a}$10	-	-	$_{a}$10	-	-	.24	-
F	Zigadenus paniculatus	$_{a}$3	$_{a}$8	$_{a}$5	-	-	.01	-	-
Total for Annual Forbs		0	0	51	47	43	0.14	0.14	0.20
Total for Perennial Forbs		410	344	329	351	177	10.93	19.78	4.61
Total for Forbs		410	344	380	398	220	11.08	19.93	4.82

Values with different subscript letters are significantly different at alpha = 0.10

BROWSE TRENDS --
Management unit 21A, Study no: 12

Type	Species	Strip Frequency			Average Cover %		
		'97	'02	'07	'97	'02	'07
B	Acer grandidentatum	1	4	3	-	.21	.01
B	Amelanchier alnifolia	1	0	1	-	-	-
B	Artemisia arbuscula	61	57	44	14.27	12.99	7.06
B	Artemisia tridentata vaseyana	48	53	56	10.08	15.05	7.37
B	Cercocarpus montanus	1	0	0	-	-	-
B	Chrysothamnus nauseosus albicaulis	1	2	1	-	-	.15
B	Chrysothamnus viscidiflorus viscidiflorus	36	38	38	1.12	2.57	1.61
B	Ephedra nevadensis	0	0	0	-	-	.38
B	Eriogonum microthecum	27	21	19	.49	.47	.40
B	Mahonia repens	8	8	10	.48	.73	.26
B	Opuntia sp.	2	4	3	.63	.63	.15
B	Pachistima myrsinites	1	0	12	-	-	1.29
B	Symphoricarpos oreophilus	10	9	6	.06	.52	.48
B	Tetradymia canescens	2	2	1	.03	.15	.03
Total for Browse		199	198	194	27.18	33.35	19.22

CANOPY COVER, LINE INTERCEPT --
Management unit 21A, Study no: 12

Species	Percent Cover	
	'02	'07
Acer grandidentatum	-	.06
Artemisia arbuscula	21.98	11.06
Artemisia tridentata vaseyana	21.38	12.81
Chrysothamnus nauseosus albicaulis	.70	.43
Chrysothamnus viscidiflorus viscidiflorus	3.53	1.85
Eriogonum microthecum	.01	.18
Mahonia repens	1.96	.35
Opuntia sp.	.61	-
Pachistima myrsinites	-	2.33
Symphoricarpos oreophilus	.36	.01

KEY BROWSE ANNUAL LEADER GROWTH --
Management unit 21A, Study no: 12

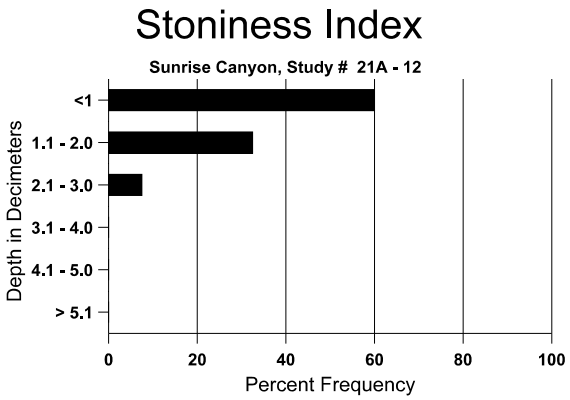
Species	Average leader growth (in)	
	'02	'07
Artemisia arbuscula	-	1.1
Artemisia tridentata vaseyana	0.7	1.4

BASIC COVER --
Management unit 21A, Study no: 12

Cover Type	Average Cover %				
	'83	'89	'97	'02	'07
Vegetation	2.75	9.25	39.82	52.60	29.46
Rock	28.50	24.75	20.16	21.08	21.32
Pavement	4.75	7.25	7.75	7.15	7.24
Litter	48.00	40.50	39.36	24.07	35.20
Cryptogams	0	0	.16	.18	.01
Bare Ground	16.00	18.25	13.54	14.30	15.21

SOIL ANALYSIS DATA --
Herd Unit 21A, Study no: 12, Sunrise Canyon

Effective rooting depth (in)	Temp °F (depth)	pH	Sandy clay loam			%0M	ppm P	ppm K	dS/m
			%sand	%silt	%clay				
7.5	55.0 (13.0)	6.1	54.4	23.1	22.6	4.7	23.1	358.4	.6



PELLET GROUP DATA --
Management unit 21A, Study no: 12

Type	Quadrat Frequency		
	'97	'02	'07
Sheep	6	13	13
Horse	-	-	-
Elk	-	-	7
Deer	10	4	2

Days use per acre (ha)	
'02	'07
41 (102)	71 (175)
-	5 (12)
-	6 (15)
7 (17)	6 (15)

BROWSE CHARACTERISTICS --
Management unit 21A, Study no: 12

		Age class distribution (plants per acre)					Utilization					
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
Acer grandidentatum												
83	**0**	-	-	-	-	-	0	0	-	-	0	-/-
89	**0**	-	-	-	-	-	0	0	-	-	0	-/-
97	**20**	-	20	-	-	-	0	0	-	-	0	-/-
02	**120**	20	100	20	-	-	0	0	-	-	0	-/-
07	**140**	-	20	120	-	-	86	0	-	-	14	20/17
Amelanchier alnifolia												
83	**66**	-	66	-	-	-	0	0	-	-	0	-/-
89	**66**	-	66	-	-	-	0	0	-	-	0	-/-
97	**20**	-	-	20	-	-	0	0	-	-	0	25/11
02	**0**	-	-	-	-	-	0	0	-	-	0	-/-
07	**20**	-	20	-	-	-	0	0	-	-	0	-/-

		Age class distribution (plants per acre)					Utilization					
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
Artemisia arbuscula												
83	**7066**	-	-	7066	-	-	0	0	0	-	0	10/18
89	**8465**	333	733	6866	866	-	50	0	10	-	60	15/21
97	**6700**	200	340	5520	840	360	20	1	13	5	9	12/22
02	**6440**	40	180	5200	1060	300	4	9	16	8	8	11/22
07	**3580**	280	80	2400	1100	380	45	13	31	6	8	10/21
Artemisia tridentata vaseyana												
83	**1665**	-	266	1133	266	-	4	0	16	-	0	24/34
89	**1865**	66	133	1466	266	-	32	4	14	7	46	22/32
97	**1720**	220	120	1080	520	840	8	5	30	15	20	26/38
02	**3020**	120	460	1800	760	480	5	13	25	7	17	26/39
07	**2140**	860	300	1380	460	680	46	9	21	13	18	25/40
Cercocarpus montanus												
83	**0**	-	-	-	-	-	0	0	-	-	0	-/-
89	**0**	-	-	-	-	-	0	0	-	-	0	-/-
97	**20**	-	20	-	-	-	0	0	-	-	0	14/2
02	**0**	-	-	-	-	-	0	0	-	-	0	-/-
07	**0**	-	-	-	-	-	0	0	-	-	0	79/87
Chrysothamnus nauseosus albicaulis												
83	**0**	-	-	-	-	-	0	0	0	-	0	-/-
89	**0**	-	-	-	-	-	0	0	0	-	0	-/-
97	**20**	-	-	20	-	-	0	0	0	-	0	38/26
02	**60**	-	-	60	-	-	0	0	0	-	0	21/20
07	**20**	-	-	-	20	-	0	0	100	100	100	56/62
Chrysothamnus viscidiflorus viscidiflorus												
83	**1333**	-	-	1333	-	-	0	0	0	-	0	11/9
89	**1533**	-	733	800	-	-	4	0	0	-	9	5/7
97	**2900**	-	460	2400	40	-	10	3	1	-	0	11/11
02	**2040**	20	40	1940	60	20	7	0	3	.98	.98	11/15
07	**1620**	20	140	1480	-	20	48	12	0	-	0	12/14
Eriogonum microthecum												
83	**2066**	-	-	2066	-	-	0	0	0	-	0	9/8
89	**1866**	66	866	1000	-	-	4	0	0	-	0	7/5
97	**1020**	40	100	920	-	-	2	0	0	-	0	5/7
02	**460**	-	60	400	-	-	4	13	0	-	0	4/8
07	**500**	40	100	380	20	-	20	8	4	-	0	6/9

		Age class distribution (plants per acre)					Utilization					
Year	Plants per Acre (excluding seedlings)	Seedling	Young	Mature	Decadent	Dead	% moderate	% heavy	% decadent	% dying	% poor vigor	Average Height Crown (in)
Mahonia repens												
83	**0**	-	-	-	-	-	0	0	-	-	0	-/-
89	**0**	-	-	-	-	-	0	0	-	-	0	-/-
97	**660**	-	60	600	-	-	0	0	-	-	0	5/7
02	**780**	-	-	780	-	-	0	0	-	-	0	5/8
07	**1720**	20	260	1460	-	-	0	0	-	-	1	4/5
Opuntia sp.												
83	**0**	-	-	-	-	-	0	0	0	-	0	-/-
89	**0**	-	-	-	-	-	0	0	0	-	0	-/-
97	**60**	-	40	20	-	-	0	0	0	-	0	9/52
02	**680**	-	-	680	-	-	0	0	0	-	0	6/13
07	**100**	-	20	60	20	-	0	0	20	20	20	7/11
Pachistima myrsinites												
83	**0**	-	-	-	-	-	0	0	0	-	0	-/-
89	**0**	-	-	-	-	-	0	0	0	-	0	-/-
97	**20**	-	-	20	-	-	0	0	0	-	0	-/-
02	**0**	-	-	-	-	-	0	0	0	-	0	-/-
07	**680**	140	-	560	120	220	18	0	18	15	15	7/22
Symphoricarpos oreophilus												
83	**200**	-	200	-	-	-	33	33	0	-	0	-/-
89	**66**	-	-	66	-	-	0	0	0	-	0	6/2
97	**280**	40	-	280	-	-	7	7	0	-	7	9/11
02	**200**	40	40	140	20	-	0	0	10	-	10	18/26
07	**140**	-	20	120	-	-	14	14	0	-	29	13/36
Tetradymia canescens												
83	**0**	-	-	-	-	-	0	0	0	-	0	-/-
89	**0**	-	-	-	-	-	0	0	0	-	0	-/-
97	**60**	-	-	60	-	-	0	0	0	-	0	9/9
02	**60**	-	-	40	20	-	0	0	33	-	33	10/11
07	**60**	20	-	-	60	-	0	0	100	-	0	14/10